THE
MEDICAL AND SURGICAL
REPORTER.

No. 2025. SATURDAY, DECEMBER 28, 1895. VOL. LXXIII—No. 26

ORIGINAL ARTICLES.

PREVENTION OF TUBERCULOSIS.*

E. B. BORLAND, M.D., PITTSBURG.

A disease which is the primary and direct cause of about fourteen per cent. of all deaths, may be properly designated the scourge of the human race. Tuberculosis is the most widely spread of all maladies, and destroys more lives than any three acute epidemic diseases.

In this city, in the year 1894, it was directly responsible for more deaths (11.8 per cent.) than ten acute infections; viz., measles, whooping-cough, diphtheria, smallpox, scarlatina, typhoid fever, cerebro-spinal fever, malaria, erysipelas and septicæmia (11.5 per cent.)

The analysis made by Heitler, of Vienna, of 16,562 autopsies, deaths not due to phthisis, there were found 780 instances of obsolete tubercle (4.7 per cent.) He excluded simple fibroid induration. In 200 autopsies especially examined by Harris, 38.8 per cent. presented evidences of former active tuberculosis. Bouchard claims to have found, in post-mortems in the Paris morgue, some evidences of tubercular lesions in 75 per cent. It would be a moderate estimate to say that at least 25 per cent. of the human race are infected at some period of life. The above records also demonstrate that nature, with or without the aid of art, either walls up or destroys the primary focus of infection, in a large percentage of cases.

That the tubercle bacillus, discovered by Koch in 1882, is the specific cause of tuberculosis, is not questioned by the medical profession at the present day. The diagnosis of tubercular lesions can usually be made by clinical observation. In cases where this is not possible, the microscope or inoculation of lower animals will decide. Some of the acute infections have been very materially reduced in number by preventive measures. Puerperal fever, formerly very prevalent in maternity hospitals, is now, since the introduction of asepsis and antisepsis, almost unknown. Typhoid fever has been reduced in many cities to one-half, and, in a few instances, to one-fourth of the number of cases existing previous to the removing of removable sources of contamination from the water supply. With the knowledge we now possess of the specific cause, pathology, sources of infection, and routes of infection, the three essential factors of infection, the means at our command to prevent infec-

* Read before the Allegheny Co. Medical Society, November 19, 1895.

tion, the measures which may be taken to prevent the further development of latent tubercle, ought and can stamp out, if acted intelligently, one-half the cases of tuberculosis in the next twenty-five years. The question is not now, can it be done, but will it be done.

The last twenty years of the history of medicine may well be designated the period of pathology; the preceding period, symptomology; the near future, not specific but preventive medicine. The effort to discover a specific treatment has been unsuccessful. Sulphurretted hydrogen has sunk into oblivion; tuberculin has been relegated to the detection of latent tubercle in the lower animals; no germicides have been discovered which can be brought in contact with the bacillus without destroying the tissues in which it is planted; the blood serum treatment is still in its probationary stage. Only three agents, one each from the animal, vegetable and mineral kingdoms, can now be ranked as specifics. None of these have been discovered in the last twenty-five years. Recent investigation in search of specific treatment has, however, thrown much light on preventive medicine.

Sources of infection:

1. Air containing dried sputum or secretion from ulcerative lesions.
2. Milk and meat.
3. Vaccine virus.
4. Contact with active tubercular lesions.

We place the most emphasis in this paper on measures for the destruction of the sputum, because we believe that it is the main source of infection. Milk, unboiled, is a common source of infection. Earnst has recently shown that tubercle may be present even where there is no lesion in the mammary gland. The large number of intestinal and mesenteric lesions in children fed on raw milk, is evidence of the frequency of this source of infection. Meat is not, however, a common source on account of its being thoroughly cooked before eating. Vaccine lymph, and contact with active lesions, are not so common as sputum and milk.

Routes of infection:

1. The respiratory tract.
2. The alimentary tract.
3. The skin.

The inflammations of the respiratory tract, from the nose to the air-cell; the traumatism of cough and the fevers, not only have a tendency to reduce vital resistance, but actually leave ulcerations and abrasions of mucous membrane which may and do become original points of infection in many cases. The bacilli may lodge at the point of entrance and multiply, or be carried by lymph or blood vessels to adjacent glands. If the vital resistance be low enough, these glands will ulcerate and the infection be carried to all parts of the system. Infection may reach all parts of the body in the same way, but not so frequently, through the gastro-intestinal mucous membrane and skin. Special care should be taken of children in convalescence after acute disorders. Tubercular infection probably does not take place during acute inflammation, on account of active phagocytosis, due to the large blood supply in the part; but that it does take place frequently in the post-inflammatory lesions, is self-evident to any painstaking observer.

The three essential factors of tubercular infection:

1. Debility.
2. Abrasions.
3. Bacilli.

Debility from any cause, either inherited or acquired, may be the predisposing cause of infection. That there is a special predisposition is at best questionable. A child born of tubercular parents is not necessarily any more susceptible to infection than any other weakling under similar circumstances, if he is removed at once from his infected home. In many persons having the so-called special predisposition, who die from other causes, latent tubercle is found on autopsy. If there is anything in the tuberculin theory, a child born of an infected mother, ought to be less liable, other things being equal, on account of its being almost constantly inoculated during intra-uterine life.

Recent observations go to show that lean people do not have a monopoly of tuberculosis. I have under my observation two tubercular patients weighing 195 and 225 pounds respectively. Both diagnoses were confirmed with the mic-

roscope. One of these patients has lost almost all of the lower half of his right lung during the past month.

The bacilli cannot enter through sound skin or mucous membrane. They cannot go beyond the superficial lesion, if all functions of the body are up to a high degree of physiological activity. Nature fights them back, encapsulates them with connective tissue, or infiltrates the point infected with lime salts and thus crushes them out of existence. The high death rate among stone cutters, grinders, millers and bakers is sufficient evidence of the influence of traumatism. The abrasion may be either macroscopic or microscopic. In many infections and contagions it has been shown that "the susceptibility varies with different individuals, and with the same individual at different times," both factors depending on the vital resistance, abrasions, and the freshness of the infective material.

Measures to prevent infection:

That the sputum daily expectorated, and the discharges from active tubercular lesions, contain in a large percentage of cases, millions of bacilli, has been demonstrated by Nuttell. He found in sputum of a single patient from one and one-half to four and a half billions of bacilli in twenty-four hours. It should be borne in mind that they retain their vitality for many weeks or even months. Koch produced tuberculosis with bacilli from a culture nearly two years old. It should also be born in mind that fresh germs are more virulent, that is to say, more likely to infect, and more difficult to destroy than old ones which have been exposed to air and sunlight for several weeks.

The question now arises how are these bacilli to be prevented from infecting other susceptible individuals. The answer is, destroy them immediately by disinfectants or heat. The objection arises that, under present social conditions, this would be impossible. This may be true at present, but if all physicians were grounded in the faith to a degree warranted by the facts, they could very soon educate their patients so that preventive measures could be carried out, at least in the homes. The physician is the guardian of health in the home. It is not only his province but his positive duty to see that all the measures at his command are used to prevent infection. Hospitals are also largely under the supervision of medical men, and could be made the training schools for teaching the necessary preventive measures. No patient with an ulcerating pulmonary lesion, should be allowed to expectorate any place, either out or in-doors, except in a vessel containing suitable disinfectants. Expectorating on the floors of public conveyances, public buildings and homes, by all persons, sick or well, ought to and can be stopped, either through the influence of a properly moulded public opinion or by appropriate legislation. We have already moderately well-enforced laws on sanitary matters of minor importance in comparison with the prevention of tuberculosis.

Large, well-glazed cuspidors with perpendicular sides, partly filled with a 1-500 corrosive sublimate solution (aciddulated with tartaric acid), surrounded, if necessary, by screens, and cleaned daily, would protect public buildings and homes. In public conveyances sawdust, in similar vessels, dampened with a 1-250 bichloride solution, would fulfill the indications. Patients, when traveling and out of reach of house cuspidores, should carry a small wide-mouth, glass-stoppered flask, containing a small quantity of the bichloride solution, or a small pasteboard box with folding lid, and partly filled with the bichloride sawdust. The former could be cleaned and the latter burned after a day's use. Handkerchiefs could be made of some cheap material not costing over one-eighth of a cent apiece, and could be burned after using. Patients who expectorate much should rinse out their mouths frequently with warm water, which may be scented with a little oil of wintergreen. This precaution to be attended to before eating for the patient's own protection, and after expectorating for the protection of others as well.

Kissing, by persons suffering from active pulmonary tuberculosis, is at best as filthy and vicious a habit as expectorating on floors and carpets, and ought to be prohibited. Children are by far the most susceptive to infection, and probably many times germs are deposited on their lips, taken into the alimentary

or respiratory tracts, and the little innocents finally die of an avoidable contagion. Kissing is always prohibited in the active stages of specific disease; why not in the more fatal disease, tuberculosis?

Hospitals especially designed for the care of the poor, should be built and maintained by the state as a matter of economy and protection to the public health.

Ventilation is one of the much neglected measures. It has been estimated that each adult individual requires 3,000 cubic feet of fresh air each hour. In a room containing 1,000 cubic feet, the air should be changed three times an hour to prevent the CO_2 from rising about six parts in ten thousand. Probably not one room in ten will meet this requirement. While only a fraction of a cubic foot (0.6) is thrown off by the respiration, an ordinary small illuminating gas burner will throw off six cubic feet an hour. A natural gas-stove without chimney outlets is one of the most pernicious air poisoners ever invented. It renders the air of any moderate sized room unfit to breathe in a few minutes. The old-fashioned fire-place and chimney is the most efficient means of ventilation we have in the average home to-day. Provisions for the entrance of fresh and the escape of foul air should be made near the floors and ceilings of every living room in such a way as to avoid draughts. Permits for the erection of all buildings should specify that ample means be provided for ventilation, and official inspectors should see that the specifications are carried out.

Measures to prevent the development of latent tubercle:

Some of the early suggestive general signs of latent tubercle are, chronic indigestion, the flushed cheek, the clubbed fingers, enlarged lymphatic glands, anæmia and the patient's dislike for meats, especially fats. In the chest, a small localized area (in one lung) of harsh bronchial respiration which persists, jerking inspiration and prolonged expiration, impairment of the percussion note, especially in the apex or base, are early significant signs that call for measures to prevent further invasion. Pure air, diet, mainly of animal foods, and woolen clothing are the hygienic factors of greatest importance.

The high death rate among persons living in-doors, makes pure air a matter of vital concern. Moderately dry, aseptic air, containing as much ozone as possible, is the essential factor. Altitude of itself has probably little influence. True, the lungs expand, unused air cells are ventilated, but at the expense of the life-giving element, oxygen. A well-known physician in this city, who was in the late war, says, that after sleeping on a bed of fence rails in the open air, wet and dry, for several months, his bronchial affection almost disappeared. A diet, mainly of animal food, except pork, is, as a rule, easier digested, and will raise and maintain a patient's tolerance when vegetable foods fail. The stomach at all times should be carefully guarded.

The skin is an important excretory organ. It throws off promptly waste products from germs, and probably some varieties of germs themselves, under circumstances when the other excretory organs are unequal to the task. Woolen clothing assists this excretory function; cotton checks it. Wool is a poor conductor of either heat or cold, and is, therefore, indicated in latent tuberculosis. Nature clothes the lower animals with wool. Man is endowed with intelligence and provided with wool for clothing, yet he frequently persists in wearing woody instead of animal fiber, and as a result he suffers.

In conclusion, we may say that the discoverer of the tubercle bacillus has shown in his life, energy, ceaseless industry, and fearless investigation well worth imitating in preventive medicine. The time has arrived for a mighty struggle of science against the most insidious, insatiable, relentless and ruthless destroyer of the human race, tuberculosis. "The mills of the gods grind slowly, yet they grind exceedingly small." Progress is the law of life, and where the vanguard rest to-day, the rear shall camp to-morrow.

The vigorous prosecution of the fraudulent milk dealers of New York City and the imprisonment of some of them have almost entirely stopped the villany of these baby killers in that city.

ADVANCEMENT OF THE INTERNAL RECTUS BY THE METHOD SUGGESTED BY DR. MELVILLE BLACK.*

J. A. LIPPINCOTT, M. D., PITTSBURG, PA.

On my return in September from my summer holiday, I found, in looking over the journals which had accumulated during my absence, an article in the July number of the *Archives of Ophthalmology* by Dr. Melville Black, of Denver, describing, "A new method of tying sutures in advancement of the ocular muscles." Briefly, the method consists in passing a needle carrying a thread whose two ends are knotted together, into the tissues above and to one side of the cornea, and then slipping the needle between the threads in such a way that when the suture is drawn tight it is firmly attached to the globe by a sort of a slip-knot. A similar suture is attached to the corresponding point below. An opening is then made in the conjunctiva at the upper border of the muscle, and another at the lower border. Through these openings a strabismus hook is passed under the muscle, and, after the horizontal incisions above and below the muscle are extended as far as necessary towards the canthus and towards the cornea, the needles are passed respectively through the upper and lower borders of the muscle and the overlying conjunctiva, and the sutures pulled half way through. The muscle is then divided in front of the sutures and the tendinous attachment dissected from the globe with a pair of scissors. The globe is now rotated by fixation forceps in the desired direction and to the desired extent, while the threads are drawn tight and tied in a surgeon's knot.

The method seemed so simple and satisfactory that I determined to test it, and accordingly I beg now to present a brief report of three cases, each of which it may be said represents a distinct class.

Case 1.—Divergent strabismus of high grade with amblyopia of deviating eye.

Miss J. R. G., of Clarksburg, W. Va., aged twenty-four, consulted me Oct. 11th, 1895. The left eye presented a constant outward squint of about 8 mm. R. E. V'n.=20/xx—, not improved by a glass. L. E.; fingers counted at four inches and only in the outer field. The ophthalmoscope revealed nothing specially abnormal in the right eye, but the left lens was so hazy in its deeper layers that the fundus could not be seen with any satisfaction. The patient was not concerned about her personal appearance. She complained chiefly of extreme discomfort, lachrymation, and redness of the inner side of the eye-ball on exposure to wind, especially in cold weather. The operation above described was performed Oct. 11th, being preceded by tenotomy of the opposing muscle—and the sutures removed ten days later. Two weeks after the operation the eye was found to be almost perfectly straight. The patient was much more comfortable than she had been, and the vision had slightly improved, so that the fingers could be counted at twenty-four inches. The slight divergence remaining, which is due to a lack of power in the internal rectus of the other eye, will probably require moderate operative interference on that side at some future time.

Case 2.—Divergent strabismus following double operation for convergent strabismus.

Edward E., aged twenty-two, Oil City. At the age of six years, after an attack of whooping cough, developed convergent squint for which both eyes were operated upon four years ago.

Stat. Præs. R. E. V'n. 15/xx—, and with + 5=15/xv.
" " L. E. "

Patient can fix with either eye, but he uses the left eye by preference, the right deviating outwards about 9 mm. Rotation outwards excessive on both sides. Inward rotation decidedly limited on both sides, especially on the right.

On October 16th, the right eye was operated upon in the same way as Case 1. The internal rectus was found at-

* Read before the Allegheny Co. Med. Soc., Nov. 19th 1895.

tached to the globe behind the equator, which explained its feeble adducting power. In this case the muscle was divided close to the globe, and very little if any of its length sacrificed. The sutures were removed eight days later. Ten days after the operation the axes of the eyes were exactly parallel in so far as lateral movements were concerned, but the patient did not have binocular single vision, as I found by testing him by a method which I devised several years ago.* To account for this lack I discovered that the right eye deviated upwards a little less than 1 mm. This upward deviation is not to be laid at the door of the operation, nor I may say at that of the operator. It is doubtless due to an inherent difference in the rotating effectiveness of the vertically acting muscles of the two eyes, a factor in strabismus most strongly emphasized by Stevens, of New York. The patient is to return in a few months, when, if necessary, a tenotomy, partial or complete, will be probably made on the superior rectus of the right eye.

Case 3.—Obstinate exophoria.

Miss L. K., age about thirty, formerly of Pittsburg, now of Seattle, Washington, first came under my observation ten years ago, complaining of great discomfort and a feeling as if the eyes are crossed in using them. She had been an excessive reader. She had a pair of —3.25 glasses which she used constantly.

Under atropine, myopia of 4.5 D. was found in R. E., and 4 D. in L. E. With these lenses each eye showed nearly normal vision. With these glasses there was a slight exophoria for near vision, but practically none for distance. The patient's general nervous condition was extremely bad.

My notes of the case for the next five years, are so extensive that an abstract of them would take up too much time. Suffice it to say, that in spite of general tonic treatment, in spite of prisms and prismatic exercises, and of other measures, her condition grew progressively worse. In 1890 her exophoria for twenty feet was 12°, and the impulse to single vision was so feeble that, once lateral diplopia was induced by a rotary prism with the base out, the double images were frequently not fused again when the rotary prism was gradually reduced to nothing. At this time (April 4, 1890), I made an advancement of the capsule of the right eye, the result of which was to reduce the exophoria to 5°. In October, 1890, the exophoria was 6°. In May, 1891, I performed Stevens' operation of partial tenotomy of the external rectus, right eye, by which the exophoria was reduced to 3°, but in a month it was 5° again. At this time she decided to go to California with the purpose of remaining a year or more. I advised her to have nothing further done to her eyes until her general health was restored.

Last September she returned with the report that her health was very much better, and that she was now ready to undergo whatever eye treatment I might deem advisable. She had had a great deal of pain in her eyes, especially—indeed almost entirely—in the right. Her discomfort naturally was greatly increased by all attempts at near vision. With her old glasses —3.25, which still suited her better than any others, she had an exophoria for distance, of 12°. The right eye often deviated outwards and sometimes also a little upwards.

Under atropine, R. E. with —4.75=15 / xv+. L. E. with —4.5= —.5 cy, horizontal = 15 / xx. Lateral prisms of doubtful assistance. Vertical prism 1½°, base downward, before right eye at times seems to help distant vision.

On October 23, the operation described above was performed on the left eye, except that the tenotomy of the external rectus was made partial instead of complete. Sutures removed eight days later. It was now found that there was an exophoria for distance of 1°, but an esophoria for near vision of 1°. This is a quite unusual condition, the rule being that the tendency to divergence is greater in near than in distant vision. Two weeks later the exophoria for distance remained the same, but the eyes were absolutely balanced in near vision. The mechanical results of the operation, therefore, are, as in the two preceding cases, eminently satisfactory.

Additional note, December 1, 1895.

November 20th, about four weeks after the operation, there was complete lateral balance for distant and near

*Trans. American Ophthal. Society, 1890.

vision, but the subjective phenomena were not much relieved. The tendency upward of the right eye still persisted, the hyperphoria being rather more than 1°. Now lenses were prescribed of the same strength as the old ones, viz., — 3.25; but, while the left was to be carefully centered, the right was to be decentered upwards sufficiently to secure the effect of 1°, base downward.

To-day the patient reports that her eyes are comfortable and that her sight is better than for years. She states that a severe headache from which she had been suffering, disappeared when she put on her new glasses and has not returned. With these glasses there is perfect balance of the eyes as regards both lateral and vertical movements.

The case is an interesting one as illustrating the importance of the treatment of vertical deviations. But it is no less conclusive as to the necessity of securing a balanced condition of the laterally acting muscles. The immediate source of the unpleasant symptoms was undoubtedly the tendency upwards (hyperphoria) of the right eye, but in the face of the strong disposition to divergence it was manifestly impossible *a priori* to secure normal functioning of the vertical muscles; and this impossibility was confirmed by the failure of all treatment, prismatic and otherwise, directed to these muscles. It was necessary therefore to first establish a condition of equilibrium as regards lateral movement, which was happily accomplished by the operation. The prism, or its equivalent obtained by decentering the right lens upward, "did the rest."

SARCOMA OF THE LOWER END OF THE FEMUR—AMPUTATION AT THE HIP-JOINT.*

R. W. STEWART, M. D., PITTSBURG, PA.

This patient, J. H., aged thirty-five, who has had a hip-joint amputation for sarcoma of the lower third of the femur, presents some points of unusual interest. He was admitted to the Mercy Hospital on May 13, 1895, suffering from what seemed to be a tubercular knee-joint. The patient had been treated by Dr. Sheedy for this disease, and for such was subsequently treated by myself, by rest, tonics, counter-irritation, and injections into the joint of a ten per cent. iodoform emulsion. Under the latter treatment there seemed to be a distinct diminution in the size of the swelling. However, at the end of two months it was evident that the patient had lost ground, and that the knee was worse than when he was admitted to the hospital. I therefore decided to excise the joint. Accordingly, on July 5th, I laid the joint open, and was surprised to find it perfectly normal, and that the whole disease was limited to the lower third of the femur, which was enlarged to twice its normal dimensions by the invasion of the neoplasm. The malignant nature of the disease was at once evident; but as amputation had not been contemplated, nor the patient's consent for such a proceeding obtained, I deferred further operative interference until I could obtain consent to a hip-joint amputation.

In the meantime, a specimen of the tumor removed at the operation was subjected to microscopical examination by Dr. Wasden, who reported it to be a round-celled sarcoma.

On July 9th, assisted by Dr. Buchanan and the house staff, and in the presence of Dr. J. B. Murdoch and others, I amputated at the hip-joint after the method devised by Wyeth. This consists in passing long pins through the thigh at a point above the amputation in such a manner that the Esmarch bandage can be retained in position

* Read before the Allegheny Co. Med. Society, November 19, 1895.

above the pins and the circulation controlled. In this case the operation was bloodless.

In the technique of the operation as devised by Wyeth, the femur is sawn through at the point of the transverse incision of the muscles, but in this case I adopted the method first suggested by Dr. J. B. Murdoch, not to divide the bone, but to use the whole limb as a lever to aid in the avulsion of the head of the femur from the acetabulum. This was accomplished without difficulty. This seems to me to be a distinct advance on Wyeth's method.

The patient suffered but little from shock following the operation, made a good but uneventful recovery, and was discharged from the hospital September 7th, 1895. At the present time, November 19th, there is no evidence of a recurrence of the disease.

THE PHAGOCYTIC THEORY.

The phagocytic theory is to-day admitted by all authors, as regards the mode of defense of the organism against the microbes that invade it. Can the phagocytic function extend to an intoxication? Is there a difference in leucocytic reaction between the inoculated and the normal animal in which a mortal dose of toxine has been injected, and if this difference exists, can the differences of the results of experiment attribute to it the death of the normal animal on the one hand and the survival of the other? Is there, during the period in which an animal undergoes the inoculation of a toxic substance, a leucocytic reaction, which demonstates that the organism is prepared to support a mortal dose of the toxine? The conclusions reached by recent complete and well conducted experiments tend to show that in animals submitted to inoculation by vegetable toxines, by bacterial, such as diphtheria and tetanus by animal, viz., the virus of the cobra di capello, there are manifest leucocytic reactions that vary, accordingly as we consider the animal during the inoculation, after it, or that has received a mortal dose of it. During the period after inoculation, the animal undergoes a progressive hyper-leucocytosis that diminishes gradually. In the second experiment there is more or less reaction, according to the amount of inoculation. There is always a slight hyper-leucocytosis, often continuing at the same figure, without notable diminution, while the animal that receives a fatal amount presents a constant hypo-leucocytosis, which progresses to its termination in death, if this occurs within twenty-four hours after the injection. Hyper-leucocytosis, if progressive and regular, is then a favorable prognosis. Progressive hypo-leucocytosis is unfavorable, and the more or less numerous oscillations of the one or the other are the certain indications of death, but more gradual.—M. Chatenoy.

M. Grasset shows how the new pathogenetic ideas, due to the discovery of micro-organisms, accord with the vitalistic theory. He says: "If microbs are living and active agents, the human organism does not, because of that, abdicate its own vitality, and during microbic attacks it responds by the essentially vital processes, either locally or generally. In disease, the general condition exercises a preponderating importance over the local, and the local condition produced by the microbe is due to the vital functional activity of the organism, and not to microbic life." *N. Y. Med. Times.*

Once when Pasteur was dining with his daughter and her family at her home in Burgundy he took care to dip in a glass of water the cherries that were served for dessert and then to wipe them carefully with his napkin before putting them in his mouth. His fastidiousness amused the people at the table, but the scientist rebuked them for their levity and discoursed at length on the dangers in microbes and animalcula. A few moments later, in a fit of abstraction, he suddenly seized the glass in which he had washed the cherries and drank the water, microbs and all, at a single draught.—*N. Y. World.*

THE MEDICAL AND SURGICAL REPORTER

ISSUED EVERY SATURDAY

THE BUTLER PUBLISHING COMPANY, Publishers **P. O. Box 843**

104 Girard Building, Philadelphia, Pa.

HAROLD H. KYNETT, A.M., M.D., . . . Editor

Entered at the Philadelphia Post-Office as second-class matter.

TERMS:—Three Dollars a year in advance. Sent four months on trial for $1.00.
REMITTANCES should be made payable to the Publisher only, and should be made by Money Order or Registered Letter.
NOTICE TO CONTRIBUTORS:—We invite contributors of value to the profession, and if published originally in THE REPORTER such will be paid for at liberal rates, or a limited number of copies of THE REPORTER will be supplied, as the author may elect. Hereafter where reprints are desired writers are requested to make a note of that fact on the first page of the MS., but must order reprints directly from the publisher, who will supply the same at cost rates. Contributors should inclose stamps for postage, that the articles may be returned if not found available.

PHILADELPHIA, SATURDAY, DECEMBER 28, 1895.

EDITORIAL.

PUBLISHER'S NOTICE.

TO ALL WHOM IT MAY CONCERN:

All controversy between the owners and present publishers of THE MEDICAL AND SURGICAL REPORTER and the assignee of the late publishers and printers of the periodical has been adjusted and settled.

In accordance with the terms of this settlement, the assignee "*relinquishes all claim to subscriptions and other accounts due and unpaid at this date, and has assigned, transferred and set over to the present publishers, all his right, title and interest of whatkind-soever in and to the REPORTER, and requests that all future payments from all sources be made to them or their assigns.*"

The formal agreement, which concludes as above quoted, and which is signed by the BUTLER PUBLISHING COMPANY and by JOHN J. JOYCE, Assignee, marks the settlement of the controversy which has been the primary cause of the delay and irregularity in the appearance of the journal, and likewise the total severance of the REPORTER from all connections which of late have wrought embarrassment to its management and dissatisfaction to its patrons.

Although the REPORTER alone suffers from the controversy, it is but just to concede that the position assumed by Mr. Joyce was taken in good faith, and was in direct line with his duties as assignee.

In order to protect subscribers and others who have paid the assignee moneys due the MEDICAL AND SURGICAL REPORTER and have obtained of him receipt for the same, and to save such from further annoyance on this account, the publishers will allow such payments to all whose names appear on the memoranda furnished by the assignee, and who present receipts signed

by J. J. Joyce, Assignee; and will give full credit for such payments upon the books.

The assignee made no claims upon the business subsequent to the assignment, and received payment only for the amounts due to September 1, 1895. In accordance with the agreement, the assignee has now relinquished all claims whatsoever upon the REPORTER, and may not accept nor receipt for any payments made subsequent to December 12, 1895, the date of final settlement; neither will the REPORTER allow credit for any payments other than those acknowledged on the account rendered by the assignee.

THE MEDICAL AND SURGICAL REPORTER is now entirely freed from embarrassments, and the present management is at liberty to put into operation long-contemplated measures for improvement, long-delayed, despite the most strenuous efforts to secure a settlement.

The improvements contemplated are along the line of development of the idea which THE MEDICAL AND SURGICAL REPORTER has ever represented. The journal is, as its name indicates, a *reporter* of matters medical and surgical for immediate consideration or opportune application by active, progressive practitioners who, dealing directly with practical medicine, seek the best and most recent information for guidance in the prosecution of their work. The REPORTER gathers information from any and all reliable sources, and presents it ready for immediate use to the every-day doctor.

The publishers are confident that the REPORTER, henceforth, will more than vindicate the enviable reputation it has gained during a continued existence of more than forty years, and that, again, it will be found easily foremost among the first-class periodicals devoted to medicine as an applied science.

In this connection, the REPORTER would give expression to its appreciation of the sympathy and loyalty shown by its patrons during the disastrous confusion and restraint incident to the controversy. However it may have suffered in other respects, the REPORTER has materially gained in the number of its subscribing friends. As the subscription list is the readiest measure of the value and strength of a periodical, the REPORTER has undoubtedly emerged from the trial stronger than when put to test. To conserve, foster, develop and perfect the journal is the business of its management, and no legitimate effort will be spared in the enterprise.

On November 6th, 1895, the St. Louis Academy of Medical and Surgical Science was organized. The constitution of the society subscribes to the code of ethics of the American Medical Association. The membership is limited to fifty.

No one can become a member of the Academy unless he possesses a good literary and medical education. As evidence of his literary qualifications and ability as a scientific worker he must deposit with his application, a thesis, a logical specimen with descriptive text, a drawing of a normal or abnormal specimen with text, or some other evidence of his worth. The evidence is passed upon by the committee on credentials. If the evidence is accepted, the ballot is taken. Two negative votes will defeat a candidate.

The following officers were elected for the following year:

President, Geo. W. Cale, Jr., M. D., F. R. M. S., London;

Senior Vice-President, James Moorse Ball, M. D.;

Junior Vice-President, Arthur E. Mink, M. D.;

Secretary, Emory Lanphear, M. D., Ph.D.;

Treasurer, Wellington Adams, A.M., M. D.;

Orator, Thomas O. Summers, A. M., B. S. M. R. C. S., Eng., M. D.;

Curator, George Howard Thompson, A. M., M. D.

SOCIETY REPORTS.

THE ALLEGHENY COUNTY MEDICAL SOCIETY.

November 19th, 1895.

"PREVENTION OF TUBERCULOSIS."

(See page 789.)

DISCUSSION.

DR. F. LE MOYNE: I am most emphatic in my belief that the medical profession has not taken the stand as educators of the public, on this and many other questions, to which it is entitled. The people naturally look to us for knowledge, and information, and instruction in matters pertaining to our department of science. There is no disease upon which the people need more light than upon the one treated of this evening by the reader of the paper. If the property of Pittsburg, or any other community, were exposed, for instance, to the ravages of fire, and the people were without proper fire protection, that is, a good fire department and proper means of reaching and overcoming the dangers, there would be no rest taken until this protection was obtained. The population of every community is exposed to the dangers of contagious diseases by the ignorance and negligence of the people and the authorities. If the particular contagious disease were diphtheria, and the people without adequate protection, there would be a great outcry at once. Yet in the case of tubercular disease, practically speaking, no precautions are taken to protect the general public, and it would be impossible to enforce even the simplest measures which have been advocated by the reader of the paper this evening, and which are believed to be necessary by every intelligent physician. I think that our profession is very culpable in not taking more energetic action in matters of this kind. We know that consumption is contagious, and that hundreds and thousands of people are daily exposed to the contagion, and yet we are taking no active measures to prevent it. I think it is high time we began to take a deeper interest in this matter, and at least make an attempt to give the public some protection. I think the fault lies to a great extent with our profession, and we should rise to meet the occasion.

DR. J. A. BARR: I had a case yesterday which seems to me to be appropriate for presentation before this society this evening. A young man had presented himself for examination for life insurance. The examining doctor said to him very promptly, "I cannot pass you. You have an affection of both lungs that will bar you from passing." Of course this was a revelation to the young man and he called upon another physician for another examination. This doctor also pronounced both lungs affected. Now there was no history of tuberculosis in that young man's family, and the question is, how, or in what manner, did the contagion reach him. It was a peculiar case. A young lady with whom he is now going, gave away the secret. She asked whether she should marry him or not, as he had been paying attention to a young lady who died with consumption. I think this deceased young woman was the source of the infection. He had no knowledge that his lungs were affected until he presented himself for examination for life insurance. I think this case shows very conclusively the contagious nature of consumption.

There is another matter in this connection that I have been thinking about for some time. At this time of the year there are many people with weak lungs, some of whom are undoubtedly consumptive, traveling south and west for the purpose of living in a climate more suitable to their conditions. Now the question arises, whether the railroad cars in general, and the Pullman cars in

particular, are hygienically arranged to accommodate these people without a liability of the tubercular patients infecting the other susceptible passengers. Any of us might be riding in these coaches, and might have some slight throat or lung ulceration, and in that condition would be liable to contract the disease. We all know how the sleeping cars are arranged. How the passengers are penned up in very close quarters, and how impure the air is after the car has been closed up all night. What should be done in these cases to provide for the safety of passengers? The question is one I cannot answer at present.

Dr. R. W. Stewart: I am very heartily in sympathy with the reader of the paper as regards the necessity and advisability of preventing the spread of tuberculosis, but I think some of the means of prevention advocated are open to criticism as being impracticable. It is all very well to tell us that a man should expectorate into a bottle, but you cannot make him do so. You may provide hygienic spittoons in public buildings, but you cannot compel everybody to use them. I doubt very much if you could persuade any man to carry around a bottle with him and spit in it while in a street car. As for myself I would not care to sit next to a man who had the accumulated sputum of twelve hours in a bottle containing tubercular matter in a concentrated form. I would most certainly prefer to have him expectorate out of the window. And then it must be taken into consideration that very few tubercular persons care to be known as such, and many are ignorant of the fact themselves. I do not believe that you could compel a man to carry around a spittoon with him, nor to use a low grade handkerchief and spit in it, and then carry it home and burn it.

Dr. J. J. Green: The subject of preventing the spread of tuberculosis is a very interesting one, and its accomplishment would certainly be very desirable. While it may not at present be classed among the violently contagious diseases, and legislated against, and preventive measures enacted by law, I think the public can and ought to be educated to a better understanding of the contagious nature of tuberculosis. It is not to be supposed that you can control tubercular patients by legislative enactments, in the same manner that you can patients who are suffering from some acute infectious disease. When you make laws to prevent the spread of such contagious diseases as diphtheria, scarlatina, small-pox, etc., the laws have a bearing on a very small percentage of people. It is a fact that many more people are affected with tubercular disease than we have any positive knowledge of, many of whom are entirely unaware of the fact themselves, and it is very hard to convince some people that they have any tubercular trouble at all. Any legislative enactment affecting so large a class of people as this, many of them enjoying apparently good health, would certainly be inoperative to a very great extent, if not entirely so.

Another objection to stringent laws against tubercular subjects is the protracted duration of the disease, the many years of comparative comfort which some tubercular people enjoy before the disease becomes active and fatal.

These facts interfere greatly with legislative interference to control it. My own idea as to the best means of preventing the spread of tubercular disease is to class it as a contagious disease, and endeavor on all occasions to instruct the general public as to its infective character and preventability. Teach the people that although there is a big difference between the acute infectious nature of some diseases and this one, the contagion is there nevertheless. I do not think tubercular subjects should be classed with those affected by rapid infectious disease, as the period of its duration is more than fifty times that of most infectious diseases. It seems to me that effectual legislation is out of the question. I think the best thing to do is to find a climate suitable for the tubercular individual, and send him there, that his life may be prolonged and the disease process checked.

Dr. J. H. Hoffman: The question of legislation has been brought forward. We may not be able to legislate for the individual, but I think that some legislation could be devised which would be of benefit. I refer to the disinfection of houses in which people have died from

tubercular disease. Some time this very matter will be, or may be, of very serious importance to our patients. There may be a time when some of our patients might wish to move into such a house, where the walls had been fairly plastered with tubercular sputum. At the present time we must take very cautious action in such cases, or we may get into trouble with the landlord. I have tried it. I think this is a matter for both State and municipal control.

There is one other matter in connection with the disease which should not be overlooked. I refer to the condition of the cows which furnish the milk for the community. I think that all dairy cows should be examined every few months by veterinary surgeons having official authority to condemn animals affected with tubercular disease. There are a great many tubercular cows, all over the country, and we are feeding our children with the milk from them. I think we can do a great deal towards preventing the spread of tubercular disease by doing a little missionary work with the people, by instructing them whenever opportunity offers, and explaining to them the infective nature of consumption. Some physicians even do not believe it. I know a physician in this city who does not believe that scarlatina is contagious, and who does not report his cases to the health officials. He allows the children to go to school, even while the epidermis is scaling off their bodies. I believe that much may be accomplished by educating the people up to an appreciation of the contagious nature of tuberculosis.

Dr. T. D. Davis: As I understand Dr. Borland's paper, it is in the line of the resolution adopted at the last executive meeting of this society it is educational. We must educate the people up to an understanding of the nature of tuberculosis, and it seems that we must educate the profession to some extent also, and we must explain the manner by which it can be very largely prevented from spreading. The line of education is the one we must follow. Why, since my entrance into the medical profession, this whole idea of consumption being contagious has been developed. It was always said to be hereditary and not contagious, and the cases of acquired tuberculosis were considered mysterious. The profession itself must advance in knowledge in the future, as it has in the past.

There is one point which has been touched upon, and that is the question of kissing. I believe that the time will come when kissing will be obsolete. The time will come when we will as soon think of kissing a girl on the mouth as we now would of kissing her foot. Many nations do not kiss at all. Of course we have grown into the custom, and it will take some time to grow out of it.

It has been very generally understood for many years that consumption was hereditary, and that the offspring of tubercular marriages would be pretty sure to be tubercular, but this fact did not prevent marriages between persons, one or both of whom were tubercular. But when we have educated the people up to the fact that consumption is not only hereditary, but contagious as well, and that the contagion can very easily be carried to and transferred by the lips, I think the number of these marriages will decrease. A healthy man would not wish to marry a tubercular woman, with the almost certain result of contracting the disease himself; nor would a healthy woman consider for a moment the proposition to marry a tubercular man. If the certainty of diseased offspring will not deter the people from marrying, the great liability of personal infection will, to a very great extent at least. Instances can be given, over and over again, where the tubercular husband has infected the healthy wife, and where the tubercular wife has infected the healthy husband.

Now as to the details how to prevent the spread of tubercular contagion generally: Whether a bottle should be carried to contain the tubercular sputum, or whether some other vessel should receive it, is a matter for the future to decide. The fact remains, however, that the spitting habit is an extensive, almost universal, and a terrible one. Charles Dickens, in his American Notes, calls us a "nation of spitters," and says that we go around spitting everywhere and into everything. Look at our beautiful Carnegie Hall. Everbody who goes there is delighted, and yet they cannot stop using it as a large spittoon. The at-

tendants tell us that the very worst thing they have to contend with is the vast army of spitters. They either spit on the floor, or go behind a door and spit; but spit they must, and do. Look in our street cars, our steam cars, and our streets, and see the spitters on every hand. Do you tell me that this cannot be stopped? It is stopped in other countries, by other nations, and it can be stopped here. It can be legislated against, and public sentiment can be aroused and cultivated. If it is a matter of custom, we must eradicate the custom. We must educate the public, we must educate the young. I know that I am speaking in rather strong terms, but does not the subject demand it? It is stated that twenty-five per cent. of our population is tubercular, and I believe that this spitting habit is largely responsible for this large percentage. We cannot take a too advanced position on this question.

DR. R. C. CLARKE: This discussion has been intensely interesting to me. When tuberculosis invades your household and takes the dearest member of the family away from the home circle in order to prolong the life of the afflicted one, it is apt to appeal very strongly to the other members of the family. When we read in the report of the Board of Health of last year, that there were 455 deaths from tuberculosis, nearly ten per cent. of all deaths from all causes, the question of its prevention becomes a very important one. It is well for us to discuss it, and endeavor to find ways and means of saving the preventable cases. I think that it is high time that the Allegheny County Medical Society, the State Society, and the American Medical Association, should take active measures to solve this question. Last year in France, there was a society organized by some of the French physicians for the prevention of tuberculosis. That society is in existence to-day. Among the methods adopted by that society to accomplish its object may be mentioned the publication of pamphlets, which are distributed without charge, instructing the people how to avoid contagion, and giving specific directions as to the care of the sputum.

I think that the best method of stamping out tuberculosis is by colonization in a suitable climate, at a sufficient altitude. In my own experience, an experience of fifteen years, I have studied this question deeply. I have studied the opinions of some of the very best physicians in America, and yet I fail to find a system of treatment by medicine which is either preventive or curative, and when I compare this with the effects of only one year's residence in Colorado upon my wife, it seems to me that the means are at hand and our duty clear. It may seem phenomenal, but I state the truth when I say that she increased in weight from seventy-eight pounds to nearly one hundred, and these figures speak for themselves of the effect of the climate acting without the aid of medicine; nothing but the pure free air of Colorado. This statement of fact must appeal very strongly to you all. Climate has a powerful curative action in tubercular subjects, and it occurrs to me that it would be cheaper for the county of Allegheny to send indigent tubercular patients to this curative climate than to care for them in our hospitals and other charitable institutions.

A member of this Society, Dr. Gallaher, another young man, and my wife, went to Colorado one year ago for the same purpose, and each one is greatly improved. Dr. Gallaher is nearly well. His disease, as you all know, was probably contracted on his journey to the meeting of the American Medical Association in San Francisco. In a recent letter to me he states that he is almost entirely well. The other young man is a great deal better. With all due respect to medical profession, and with all due respect to medical treatment, I must say that I do not believe much, if anything is accomplished by means of medicine in tuberculosis, except by the serum treatment. I think that it is high time that the profession should recognize that fact. I have hoped to see some powerful society like the American Medical Association take this matter up, investigate it thoroughly, and devise some means for the prevention of the spread of tuberculosis, and for the cure of tubercular subjects.

DR. J. E. RIGG: I do not think that the residents of this state have any cause to be discouraged in regard to state sanitary legislation. Pennsylvania is a state

which has always acted slowly. While she was one of the first to pass laws with reference to the public health, she has been very slow to take up the question again. But when the question was taken up again, it was with mature deliberation and the result is that we have fairly good health laws. Now I do not mean to say that our law is perfect. It is not. It is, however, the entering wedge; and I expect that more laws will eventually be passed which will accomplish to a great extent the object sought. This is a hard question for the medical profession and we as yet do not know how to handle it. We do not know what laws to ask legislatures to pass. We have no mode to submit to them. We are, however, working along the right lines, and by and by we will know what we want, and when we can go before the legislature with an intelligent law it will no doubt be acted upon.

The question has come up this evening with reference to climate. I have studied this matter with great care. It is proposed to find a suitable climate and then send our tubercular patients there, and when this cannot be done, to erect extensive hospitals where these patients can be kept by themselves. With reference to climate I do not think that it is altitude alone that checks the disease process. It is a combination of circumstances and conditions. You send a patient to Colorado and he improves, he may get apparently well, and yet the bacillus is still there. I wish to refer to one case. A member of our profession went to Colorado some five years ago, on account of tubercular disease. After living there some two years he pronounced himself well, but upon examination he found the bacillus still in his sputum. He suffers no inconvenience from its presence, his health is good, but the bacillus is there. He has good powers of endurance, and to all appearance he is a sound man, but the bacillus is there.

It has been stated that the altitude is the necessary factor. I do not think this stand an entirely correct one. Many people go to Georgia, to Tennessee, to Florida, and to other places in the south and southwest of varying altitude, and many are greatly improved. I do not hink a too high altitude should bɜ selected. I believe an average altitude of between 2,500 and 4,000 feet is the best for the patient, and the most unfavorable for the disease. If you go higher than this your patient is apt to grow worse. Indeed many people seem to improve on the southern plains more than they do in the upper lake or mountain region.

Again, on the Pacific slope there are locations said to be very beneficial to tubercular patients. Some physicians recommend the extreme north. In all of these locations there is a varying humidity in the air, and a wide range of temperature. Who can say positively what is the controlling influence? We should study this question thoroughly on all sides, before we attempt to instruct the public as to their duties, or the legislatures as to the laws they should pass.

I am also of the opinion that tubercular patients should not marry, but it would be very hard to frame a law that would govern these cases. It is a hard task to try to protect people who do not want to be protected, and who refuse to exhibit their usual good sense and good judgment in matters of this kind.

Dr. J. M. Duff: There is one point in the consideration of this matter which I do not think has been touched upon by either the reader of the paper or by the gentlemen who have taken part in the discussion. We cannot accomplish everything by legislation, but self-protection is the first law of nature, and if we can convince the people that their own interests are at stake, and arouse public sentiment, a great deal will have been accomplished.

It has been my privilege to have been a school director almost continuously for the past twenty-four years, and ever since I first became one I have endeavored, as far as possible, to see that there were no kissing games in the schools with which I was connected. I had the children educated up to the fact that kissing was a dangerous past-time and should not be indulged in. We have tried to educate them in regard to expectoration. I go into the schools every few weeks and talk to the children in the different rooms upon these subjects, and so they are educated to a certain extent as to what they should not do

and why they should not do it. I think if our school teachers were thoroughly instructed in these subjects, and if instruction were given daily to children, before the world was a generation older we would not need State legislation.

You, as physicians, know the influence which the child exerts upon the parents at home. If the child learns of these things in the school, and if their importance is impressed upon him, he will surely carry that instruction home, and whenever he sees these important laws violated, he will, certainly in the majority of cases, speak of what he has learned at school. If we cannot hope to induce proper legislation at the present time, we can at least commence to mould future public opinion by educating the child in our public schools.

Dr. R. H. Grube: When we consider that three out of every seven deaths are caused by tuberculosis, that about five adults out of seven to-day have or have had tuberculosis, I think the question discussed to-night should come home to every one of us. When it comes into our home circles, and into the home circle of our friends, it must be of still graver importance to us. There is another aspect to this subject, which has not been considered this evening. The question of bread and butter, the question of surroundings. These factors must enter into our calculations. The younger members of society must be prevented from entering into occupations which will have a tendency to foster tuberculosis, occupations which are manifestly unsuitable. As an example: Five out of every ten printers die of tuberculosis, doubtless caused or aggravated by their close, confined life, from the constant inhalation of dust impregnated with alkali and antimony from the type metal, and the special position which they occupy; all of these causes together condemn five out of every ten printers to death from consumption.

So then we must go back of laws, or make laws governing occupations; we must go back of the moral make-up of society.

As soon as a case of tuberculosis develops, it should be taken under official observation and placed in public institutions for the treatment of this disease, modeled after that of Detweiler at Falkenstein, Germany. Institutions located at a high altitude, free from germs, where they can have the warm sunshine, and where they can have what is more than all, proper exercise and proper alimentation. I think the latter is to a great extent the key to the problem—a proper and sufficient alimentation. If you can feed the patients with a sufficient amount of proper food, and it is assimilated, you need have little fear of tuberculosis. Right in this city you can find hundreds and thousands of young boys and girls of from ten to twenty years of age, with all the marks of tuberculosis, working from ten to fourteen hours a day in dark ill-ventilated rooms. Society must get them out of these surroundings and conditions. I do not think these patients need to be transplanted to the higher altitudes of Colorado. Institutions could be erected on the high hills surrounding Pittsburg, by public beneficence or private charity, and in these institutions a noble work could be carried on.

So far as the particular restrictions and laws spoken of by the reader of the paper this evening are concerned, they strike me as being a trifle absurd, although the end sought is very desirable. We may come to them after a while, but unless we go back of law, back to the moral element of society, we cannot accomplish much. Turn back a hundred years in the history of the Italian city, Naples. They had more stringent laws than any which have been passed in recent times. The tubercular subjects were regarded as lepers and were ostracised from society; they were cut off from all social intercourse; and when a death occurred, the houses were burnt down or the plaster scraped from the walls. For fifty years these laws were in force, and the disease was not reduced one whit. Laws will not accomplish this, education may. Educate the public as to the true nature of this disease and how it may be avoided. If you can educate the public sufficiently, we will have no need for legislation.

Dr. Eugene Wasden: The consensus of opinion as expressed here this evening, seems to be to the effect that we should enact laws to prevent tubercular subjects from marrying, and that we

must educate the people up to a thorough knowledge of this dread disease. Laws can do a great deal. I might make reference to the marine hospital service of the general government. Our quarantines are rigid. No small-pox, no yellow fever, no cholera, can obtain access to our shores. Our quarantine laws are exceedingly rigid. The officials have almost absolute power. But the diseases to which I have referred are very acute and very virulent. Tuberculosis is not, in the vast majority of cases, acute. It is not rapid in its development. It would be hard to legislate it out of existence, but rigidly enforced laws can accomplish a great deal. We must educate the people, it is true, but what better object lesson could there be than suitable laws enforced by the general government acting in conjunction with the State government, with the city government, and with the village government, the officials being national, state and municipal? Certainly this would be educational. Nothing educates the people more than an absolute fiat. If you merely temporize with anything you can accomplish but little. I do not think that we can ever accomplish the desired end by education alone. It would be almost as hard to legislate kissing out of existence as it would be to stop breathing by law. I think one is just as absolutely impossible as the other. Our laws must come well within the bounds of reason and the understanding of to-day, if you wish to see them enforced in a satisfactory manner.

I think one reason why we do not have more legislation on the subject of tuberculosis, and other diseases also, might be mentioned. It is because we have no head under which to work and combine our efforts. I think if we had a national board of health acting in conjunction with state, county and municipal officials, that in twenty-five years, with suitable legislation, the number of tubercular subjects could be reduced one-third, one-half, and perhaps three-quarters. But education of the general public in a desultory manner will not accomplish this. It is not my purpose to anticipate the looked-for action of the American Medical Association in the matter of the National Board of Health, but reference to this seemed to me to be very appropriate to the discussion this evening.

I do not believe, as a bacteriologist, that there will be anything discovered in the near future that will be specific and enable us to suppress tuberculosis, and I fully believe that we must look to hygienic legislation for relief. I do not think that we will accomplish much if we confine our efforts to the education of the general public.

DR. E. B. BORLAND: I am surprised at the first objection which was entered against my paper, in regard to the disposition of tubercular sputum. In my paper I tried to make my position plain, and I think the gentleman misunderstood the intent of the paper in that particular. The fact of the matter is simply this: I first argued that it was important that tubercular sputum should be immediately destroyed. That was the point I made. In addition to this I simply suggested one or two methods for its destruction. The necessity for destruction was the main point, the methods spoken of merely suggestive. I think the methods which I suggested are neither out of reason nor entirely impracticable, and I do think that all the profession will soon realize the stern necessity for these or similar measures.

In regard to the length of time it might be necessary to take these precautions in individual cases, I would say that the average patient, when he becomes a danger and a menace to society, continues so for about two years. I now have reference to the stage of ulceration. In the case of individuals suffering from latent tubercle these precautions are unnecessary. I estimated, when I was preparing my paper, what it would cost for a patient who was spitting up tubercular sputum, to destroy it during a period of one year. At most, it would cost, in the case of one individual, not more than twenty-five dollars and a little trouble, to protect the other members of the family from contagion. Taking two years as the average length of time necessary to take these precautions, from the beginning of the ulceration to the limit, fifty dollars would have to be expended, in addition to a little trouble on the part of the patient and friends, to protect the other members of the family.

Another factor in the cause or spread of tuberculosis which has been mentioned by one of the gentlemen, is the "tubercular house." I understand that in Philadelphia and in New York, already memoranda are kept of such houses.

There was one point which was brought up to-night which I neglected to speak of. I refer to tubercular marriages, and in connection with this will present for your consideration a case which has been under my observation. The gentleman in question is about forty-eight or fifty years of age, and he has had a history of tubercular troubles ever since he was a young man. He has been married three times. His first wife died of consumption. His second wife died of consumption; and at the present time his third wife presents all the signs of tuberculosis which can be discovered without the aid of a microscope. I believe the woman is now suffering from pulmonary tuberculosis. This is certainly a strong argument against tubercular marriages, and also very convincing evidence in support of the theory of direct contagion.

ABSTRACTS.

CHOLERA IN INDIA.*

It is now more than ten years since Robert Koch visited the region in which cholera is notoriously epidemic, whence have spread the terrible epidemics of the disease which have formed an important feature in the medical history of this century. That memorable visit led to the discovery of a spirilum associated with the disease, and the researches which have since been carried out in various parts of the world, and under the most varying conditions, tend to show that this association is so intimate that now-a-days all bacteriologists are willing to acknowledge that the spirilum is the causative agent of the disease. Nevertheless, with strange obtuseness, the Indian medical service as a department of the Government, and indeed as a branch of the British army, has throughout failed to appreciate the value of Koch's discovery, and what is more, has blindly hung on to old and ineffective methods of coping with the disease; in short, has done nothing to gain any practical results from Koch's all-important discovery. Only now, after all these years, thanks to two remarkable men wholly unconnected with it, is that service beginning to realize that there is something to be gained from the bacteriological study of the disease. These two men are Mr. E. H. Hankin, the chemical examiner and bacteriologist to the Government of the North-western Provinces, and Dr. Haffkine. Both before visiting India had made names for themselves as bacteriologists, the one by his remarkable series of observations upon the albumoses of anthrax and the defensive proteids of the body, the other by his observations upon cholera and other diseases of the Institut Pasteur, where he was demonstrator under Metchnikoff and Roux. Hankin's work had been performed in the pathological laboratory of the University of Cambridge. These observers have worked along different lines in attempting to stem the disease; both have achieved remarkable results.

Hankin's work has been very largely directed towards a study of the conditions under which the cholera spirillum exists in water. Of late during the progress of epidemics of the disease in France, Germany, Italy and elsewhere, spirilla have been discovered in the water employed for drinking purposes. This was notably the case during the great epidemic at Hamburg, and indeed when in India Koch himself had discovered the microbes in village tanks. In a large number of cases the spirilla isolated have diverged in several particulars from Koch's classical description,

*Review of current literature of subject by J. G. Adami, M. D., in *Montreal Med. Jour.*, December, 1895.

and as a consequence there has been grave doubt as to whether they were the pathogenic organisms. It has been left to Hankin to study fully the connection between these spirilla and outbreaks of the disease. This he has done in a large number of places, in Lucknow, Etawah, Unao, Cawnpore, in the Gonda District, in and near Shahgunj, and in Allahabad, and, to place his results in as concise a form as possible, he has found that in a large number of localities, situated often under very different climatic and other conditions, vibrios, that is to say microbes, resembling those of cholera are extremely rarely to be found, except in places in which cholera has recently existed. During an epidemic, so far as tested they generally show virulence and are capable in pure culture of killing guinea pigs within relatively a very few hours. They give the indol reaction and possess other characters regarded as typical of the cholera microbe. After the cessation of the epidemic the spirilla gained from the water show a greatly diminished virulence for guinea pigs, and in their limited ability to grow on agar-agar they exhibit a diminution of vitality that may perhaps safely be regarded as an indication of diminished virulence. Such degenerated vibrios show great tendency to die out in ordinary cultures, so that it is difficult to keep them alive for any time in the laboratory. The conclusion from these researches would certainly seem to be that these vibrios are nothing more than the microbe of cholera in a degenerated condition. In this way Hankin throws light upon the divergent results of European bacteriologists and on the existence of races of spirilla.

Though there is reason for thinking that the cholera microbe thus degenerates rapidly in well water, there is no similar reason for thinking that conditions may not exist in which it can maintain its virulence, and indeed Hankin presents an account of one or two such cases in which there had been apparently exaltation of virulence. He mentions, for example, a catch-pit at Daragunj, a hole in the sand on the bank of the Ganges about three feet in diameter, containing stagnant water and fed by a small drain running into it from the village. The water of this on his first visit contained over three million microbes per c.c. The cholera germs isolated from it killed guinea pigs in twenty-four hours. A fortnight later he examined the water that was trickling into it from the village (at that period free from cholera). This contained cholera microbes that killed a guinea pig in four hours. For comparison it may be mentioned that Haffkine's most powerful virus requires six hours to kill these animals.

These observations have led Hankin to proceed further, and starting from the basis that cholera is in the main conveyed from individual to individual, by the contamination of water with fæcal matters, to observe whether disinfection of the water supply might not arrest epidemics. This disinfection is all the more important in that whereas in European towns there are at most two or three sources of water in use, in an Indian town there are usually hundreds of sources. In some places, as at Cawnpore, there may be a well in almost every house. He first employed lime. This was certainly successful in destroying the microbe, but as it frequently killed frogs in the well also the results were not regarded as uniformly satisfactory. Permanganate of potash proved to be much more satisfactory. In a majority of cases when a well, known to be a source of cholera infection and containing cholera microbes was disinfected with permanganate the cholera ceased at once in the areas supplied by that well. The results, however, were not uniform, indeed I believe that I am correct in stating that Mr. Hankin owed a mild attack of cholera from which he suffered, to a premature demonstration of the harmless character of such disinfected water. The use of the permanganate in sufficient quantities to destroy the spirilla has no deleterious effect upon the water, but when this simple method in case after case has arrested the spread of an epidemic among those employing the water, its beneficent working shows that in it Mr. Hankin has devised a remarkable means of prevention of a most dread disease, and so important to the well-being of the Indian peoples do his observations appear to be that he does well to ask for a trial of this method of combating cholera and of destroying it at its source.

The account of the above investigations forms, however, but a small portion of the record of Mr. Hankin's great activity. His annual report for the year 1894 is full of other matters of extreme interest. How widespread are the subjects with which he has to deal will be understood when it is stated that the report treats of his investigations into the nature of the hairs obtained from the mud smears on mango trees which caused so much excitement a few months ago, with medico-legal cases of poisoning, with the bacteriology of aërated waters, examination of filters, of mildew on canvas and of microbes in Indian rivers. He shows, among other things, the inefficiency of "filter-tank" wells. He found, for example, that in one case the water obtained for regimental use from such a filter contained the cholera microbe, while the water passing to it before filtration was free from the germ. Upon inquiry it was found that the sand used for the filters had been taken from an insanitary spot on the banks of the river below the town. He found also that the Macnamara filters in use by certain companies of the East Lancashire regiment appeared to act also as excellent breeding grounds for the microbe and were, in fact, highly infected. Failing the use of weak solutions of permanganate, the only safe method of insuring germ-free water would seem to be by boiling it.

Let me now turn to Dr. Haffkine's results. Starting from the hypothesis that the spirillum is the actual cause of cholera, this young Russian observer had been engaged for a considerable period while at the Institut Pasteur in endeavoring to elaborate a method of "vaccination" against cholera. So far as results upon lower animals, such as guinea pigs, could be relied upon, he had shown that it was possible to gain protection against doses of most highly virulent cholera microbes by previous inoculation with attenuated cultures. But means were wanting to test the value of his laboratory experiments. It is true that the guinea pig will succumb to doses of virulent spirilla, but it is also true that the conditions under which this is brought about are highly unsatisfactory. In order to induce what appears to be an intestinal cholera, the little animals have to be dosed with alkaline solutions and with opium, treatment which alone will often lead to fatal results. If, as has been now frequently done by enthusiastic bacteriologists, by Hankin, Haffkine, Metchnikoff and others, and by sceptics such as Pettenkofer, pure cultures of what appear to be most virulent microbes are taken by the mouth, in only about five per cent. of cases do any results ensue. Haffkine, it is true, further inoculated himself and a large number of his friends with his vaccine, but under the conditions it will be readily understood that the fact that he and his friends remained in good health when subsequently they ingested countless millions of the spirilla was devoid of any absolute value. It was necessary, therefore, that if the method of vaccination was to be tested, this should be on a large scale, and with the object of obtaining the best field for a search into the value of the method, Haffkine, at his own cost and responsibility, went to India. But once in India his trouble had only begun. A free population, the various influences and currents of opinion intervening, religious feelings and conditions, and the mixture of confidence and distrust on the part of individuals and committees, are conditions not entirely favorable for an experimenter having the aims of Dr. Haffkine.

He started with the hope that he might select a village or a small town suffering regularly from a known amount of cholera. By inoculating, before the cholera season, a half or a large portion of the village, he had hoped that a field would be prepared for observing the effects of his operation. But such village did not present itself. It was only after a long period—more than a year—of almost ineffectual work that the right method showed itself. It was not necessary to inoculate half a country, or a city, or even half a village; in the endemic area each house can comprise within its walls an experimental group, and by inoculating some, and not inoculating other, members of the households who otherwise were under similar conditions of food, water, soil, social customs, etc., reliable statistics could be obtained as to the efficacy of the treatment. The method at first sight seems

peculiarly cold-blooded. Upon further consideration, however, there is not a little to be said in its favor. The inoculations were harmless and they were experimental; those not inoculated were, it may be presumed, those who did not ask to be.

And now as to the results. By recording carefully the statistics of those treated and untreated in such households, in regiments, upon tea plantations and in gaols, and comparing the mortality in supervening cholera epidemics among those inoculated and those untreated, the following are some of the results: In a total of 42,445 inoculations, not a single instance of mishap or injury to health resulted. In Calcutta, 1,860 inoculations were performed by the Health Department of the municipality. Cholera occurred in thirty-six houses in which a certain proportion of the 516 inmates had been inoculated. Among the uninoculated, 13.47 per cent. were attacked by cholera and 11.6 per cent. died. Among the inhabitants partially protected by the first inoculation, only 2.2 per cent. were attacked and died. Among those who had undergone the complete second inoculation there were no cases and no deaths.

The Calcutta Municipality was encouraged to carry on the experiment by the results obtained in a localized outbreak of cholera around certain tanks. Of the 200 persons living in the infected group of houses 116 submitted to the operation. Among these 116 no further cases occurred; among the eighty-four not inoculated ten were attacked and seven died.

In the Gaya gaol again, both classes of prisoners, inoculated and non-inoculated, appear to have been equally exposed to infection. While Surgeon-Major Macrae's statistics are not easy to grasp at first sight, they show the same results, namely, that after the full period of inoculation by the first and second vaccine, no deaths occurred among the inoculated, whereas deaths continued to occur with fair frequency among the non-inoculated. Or, taking the whole statistics from the period of the first vaccination of the prisoners, the mortality among those untreated was twice that among the treated.

Thus, after nearly three years' arduous and self-imposed labor, carried out at his own cost, Dr. Haffkine has brought to a successful issue one of the most remarkable experiments ever undertaken by a man of science. He has lived his life before the Indian doctors during all this period, he has completely won their confidence and esteem. The prejudices, apprehensions and unnatural objections to what seemed a dangerous operation, he has gently and calmly overcome. The evidence he brings forward is verified by independent medical experts. He came to India a healthy man, he leaves it weak and broken down, but he leaves it, as the *Times* in a most interesting resumé of his works remarks, as one stamped as no ordinary man, and perhaps destined to rank as the Jenner of India.

Controversy may continue with regard to the precise value of inoculation as a prophylactic against cholera, but there can be no controversy as to the disinterestedness of purpose and the high scientific aim which has led Dr. Haffkine to study how to protect, not only our soldiers in India and the Indian people, but also the people of civilized Europe and America from this terrible disease. There can again be no controversy as to the wisdom displayed by the government of the North-west Provinces of India in taking the bold step of establishing a bacteriological laboratory, and appointing to direct it the brightest and most resourceful of young English bacteriologists in the person of Mr. E. H. Hankin. Now that he has accomplished so much for the good of the Indian peoples, it is to be hoped that he will be permitted to devote all his attention to bacteriology pure and simple, apart from medico-legal analyses and the multifarious duties appertaining to the post of chemical examiner.

Sleeping Rooms.

Oil stoves and gas stoves should never be kept burning in a sleeping room, for they are burned in the open air of the room, and having no connection with a chimney-flue, throw the poisonous carbonic oxide of combustion into the air of the apartment and make it unfit for respiration.

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

MEDICINE.

Fate of a Famous Health Resort.

Forty years ago Mentone was a healthy village in France, where lived peasantry happy in their farms and their superb physical state, conditioned by the climate. It was discovered that the region was a most healing climate for consumptives, and it became the Mecca for the unfortunates of Europe so stricken. The inhabitants abandoned their farms to wait upon the strangers. The strong, healthy women forsook their dairies and became the washerwomen of the consumptives' clothes. No precautions were taken; the disease was not then understood as now, the theory of the tubercle baccillus not having been discovered. The place to-day is bacillus ridden, a pesthole, death itself. The hitherto strong inhabitants are emaciated, a coughing, bleeding people, filled with the germs of consumption. The soil and the air are both contaminated with them. It is no longer a resort. The same fate, it is believed, awaits many other similar health resorts unless active means are taken to destroy all germs. This will be a most difficult task, because consumptives themselves, as a rule, are not thoughtful of the danger they spread, or of the rights of others. They should bear in mind that if all others had been careful they, too, might have escaped.—*The Journal of Hygiene.*

Philadelphia newspapers report that a regular epidemic of "benzin booze" has broken out among the gamins of that city, even gasolin street-lamps being laid under contribution to supply these urchins with the stimulant craved. This discovery of the intoxicating properties of benzin is said to have been accidental, so far as these boys are concerned, one of them having had his first "jag" after hiding in a recently emptied barrel. This tale corroborates Dr. Rosenthal's report of the employment of benzin as an intoxicating inhalant by individuals of the laboring classes in Germany (W. D., 1894, p. 445). Henceforth, it would seem, it will no longer be necessary to spell benzin with quotation marks.

In this connection reference may be made to the most unique of "drunks" ever recorded. It is the case of a certain railroad engineer of Toledo, O., who, according to the newspapers, periodically goes out on a regular "candy drunk," when for the time he has to be excused from work. He contracted the habit when young and it has grown steadily upon him until no old toper craves his drink more than does this railroader his candy. It has no serious lasting effect upon him, as there is not an engineer on the road with a keener eye or steadier nerve.—*Western Druggist.*

The Convict Evil.

The death rate among the convicts from various counties in the State, who are confined in the Coalburg mine prison, near Birmingham, Ala., was a few weeks since investigated by County Health Officer Dr. Thomas D. Parke, by order of the County Committee of Health. The report was sent to Governor Oates and the Board of Convict Inspectors. Coalburg prison mines are operated by the Sloss Iron and Steel Company, who receive the short-time convicts to work in the mines at so much per head, paid the counties sending them. The State or long-term convicts are sent to the mine prison at Pratt mines, to the penitentiary walls at Wetumpka, or the convict farm at Speigners. The report is a voluminous document, the main data elicited being that the death rate at Coalburg for each of the past two years was ninety in each 1,000, and that the principal cause of the death rate is tuberculosis, superinduced by insufficient sunlight and ventilation. The death rate among the able-bodied men who were constant workers in the mine—men in the prime of life—was sixty four in the 1,000. This death rate is frightful, says the report, and it adds: "The question may be asked whether a sovereign State can afford to send her citizens for slight offenses to a prison where, in the nature of things, a large number are condemned to die." The report condemns the system rather than the Sloss Company, which, the report says, has been found always ready to accept and act on suggestions. It condemns the practice of paying sheriffs thirty cents a day to feed each county jail prisoner and giving a ten-days' convict as high as two hundred days in the mines for costs of court when not able to pay them. The pay to feed prisoners, it claims, makes the sheriff's principal income, and these officers give prisoners in the county jails cornbread and fat meat the year round and make their profit, thus preparing the prisoners for disease upon entrance into the mines. The report has caused a local sensation, and will create interest throughout the State, suggesting legislative action as a remedy for the evil disclosed.—*Nashville American.*

Disinfection of Vaults and Cesspools.

Dr. Vincent recently reported to the Academy of Sciences, at Paris, the results of experiments for the purpose of determining the best disinfectant for rendering fæcal matters innocuous. He required of each disinfectant that it should kill all pathogenic microbes, including the bacillus coli communis and the bacteria of putrefaction. His experiments showed that the best of all disinfecting agents for the destruction of fæcal matters in vaults and cesspools is sulphate of copper employed in connection with one per cent. of sulphuric acid. The quantity of sulphate of copper required was one pound for every three cubic feet of fæcal matter mixed with urine. Half this quantity was found sufficient to destroy the cholera bacillus. It was found necessary that the disinfectant should remain in contact with the infectious material for at least twelve hours.—*Modern Medicine.*

PEACOCK'S BROMIDES

(CHEMICALLY PURE.)

Each fluid drachm represents 15 grains of Combined Bromides

Uses: Uterine Congestion, Headache, Epilepsy, and all Congestive, Convulsive and Reflex Neuroses.

DOSE.—One to two FLUID drachms, in WATER, three or more times a day.

AVOID THE USE OF COMMERCIAL BROMIDE SUBSTITUTES.

CHIONIA FROM CHIONANTHUS.

USES:

ALL DISEASES CAUSED BY HEPATIC TORPOR.

Does not purge, per se, but under its use the Liver and Bowels gradually resume their normal functions.

DOSE.—One Fluid Drachm three times a day.

PEACOCK CHEMICAL CO., - ST. LOUIS.

SENG ACTIVE CONSTITUENTS OF Panax Schinseng (Manchuria)

FOR

INDIGESTION AND MALNUTRITION.

Specially indicated in Phthisis and other Wasting Diseases.

DOSE.—One or more teaspoonfuls three times a day. For Babies, one to ten drops during each feeding.

CACTINA PILLETS

INDICATED IN ABNORMAL HEART ACTION.

Given with Antipyretics TO PREVENT Cardiac Depression.

Each Pillet represents one one-hundredth of a grain of Cactina—the active proximate principle of Cactus Mexicana.

DOSE.—One Pillet every hour, or less often, as indicated.

SULTAN DRUG CO., St. Louis and London.

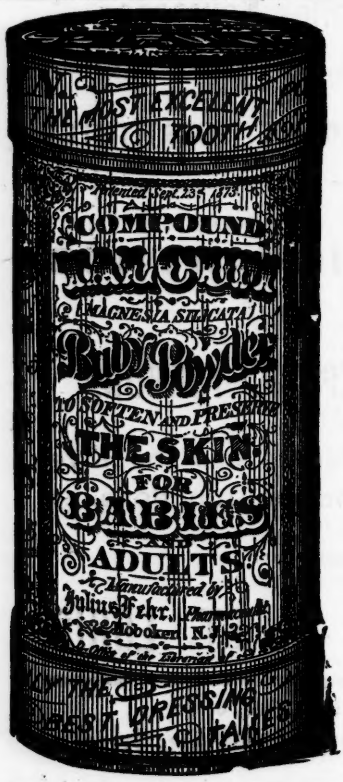
MEDICAL DEPARTMENT OF
THE COLUMBIAN UNIVERSITY

The Seventy-Fourth Session begins October 1, 1895, and continues for seven months. Four years' course required.

INSTRUCTION is given by lectures, clinical and laboratory demonstrations in Anatomy, Physiology Chemistry, Materia Medica, Surgery Practice, Obstetrics, Normal and Pathological Histology, Hygiene and Bacteriology, Ophthalmology, Laryngology and Otology, Gynæcology, Neurology, Diseases of Children, Medical Jurisprudence. The clinical facilities are ample and the laboratories well equipped.

For the annual announcement, address **DR. D. K. SHUTE, Dean.**

DR. E. A. de SCHWEINITZ, Secretary-Treasurer, 1325 H. St., N. W., Washington, D. C.



DR. J. FEHR'S
"COMPOUND TALCUM" .. "BABY POWDER"

THE "HYGIENIC DERMAL POWDER"
FOR
INFANTS AND ADULTS

"Originally investigated and its therapeutic properties discovered in the year 1868, by Dr. Fehr, and introduced to the medical and the pharmaceutical professions in the year 1873."

COMPOSITION—Silicate of Magnesia with Carbolic and Salicylic Acids.

PROPERTIES—Antiseptic, Antizymotic and Disinfectant.

Useful as a **GENERAL SPRINKLING POWDER**, with positive Hygienic, Prophylactic and Therapeutic properties.

GOOD IN ALL AFFECTIONS OF THE SKIN

PER BOX, PLAIN, 25c.; PERFUMED, 50c.
PER DOZ., PLAIN, $1.75; PERFUMED, $3.50

SOLD BY THE DRUG TRADE GENERALLY

MANUFACTURER:

JULIUS FEHR, M. D.
Ancient Pharmacist **HOBOKEN, N. J.**

Only advertised in Medical and Pharmaceutical prints.

CAN THAT
Dire Disease,
CONSUMPTION
Dr. McArthur's Syrup OF Hypophosphites
BE CURED?
(Lime and Soda) **COMP.**

Has cured many and helped others, being used judiciously by physicians.

Send for pamphlet and sample which will be delivered to any physician without expense.

McARTHUR HYPOPHOSPHITE CO., **BOSTON, MASS.**

SOME FAVORITE COMBINATIONS OF CELERINA.

Dyspepsia, with Uterine Debility—

R—Aletris Cordial ..... 4 oz.
Celerina ..... 4 oz.

M. Sig. Teaspoonful before each meal.

A Most Valuable Nerve Tonic—

R—Tinct. Nucis Vom ..... 1 oz.
Celerina ..... 7 oz.
Cactina Pillets 200

M. Sig. Teaspoonful thrice daily.

Diseased Appetite of Hysterical Women—

R—Tinct. Ignatiæ ..... 2 dr.
Celerina ..... 8 oz.

M. Sig. Teaspoonful three times daily.

Nervous Depression, following debauch—

R—Celerina ..... 4 oz.
Tinct. Cinchona Comp. ..... 4 oz.

M. Sig. Teaspoonful in water three times a day.

Chronic Alcoholism—

R—Tinct. Capsici ..... 4 dr.
Tinct. Nucis Vom ..... 4 dr.
Celerina ..... 3 oz.
Syr. Bromide Comp. (Peacock) ..... 4 oz.

M. Sig. Teaspoonful in water four times daily.

Very valuable for old worn-out drunkards.

Insomnia of Drunkards—

R—Bromidia (Battle) ..... 4 oz.
Celerina ..... 4 oz.

M. Sig. Teaspoonful, repeated as necessary.

Chronic Nervous Headache—

R—Celerina ..... 6 oz.
Tinct. Hyoscyam. ..... 1 oz.
Tinct. Gelsemii ..... 1 oz.

M. Sig. One teaspoonful taken before going to bed.

Delirium Tremens—

R—Tinct. Capsici ..... 1 oz.
Peacock's Bromides ..... 2 oz.
Celerina ..... 5 oz.

M. Sig. Teaspoonful in water, as required, for wakefulness and excitement.

Spermatorrhea with Sexual Weakness—

R—Sanmetto ..... 4 oz.
Celerina ..... 4 oz.
Strychniæ Sulphatis ..... 1½ grs.

M. Sig. Teaspoonful four times daily.

Insomnia of Hysteria—

R—Peacock's Bromides ..... 4 oz.
Celerina ..... 2 oz.

M. Sig. Teaspoonful every two hours until sleep is produced.

Depression of Opium Habit—

R—Tinct. Capsici ..... ½ oz.
Con. Tinct. Avenæ ..... 1 oz.
Celerina ..... 6½ oz.

M. Sig. Teaspoonful several times a day.

Nervous Prostration with Malaria—

R—Celerina ..... 8 oz.
Quiniæ Sulph ..... 1 dr.

M. Sig. Teaspoonful three times a day.

RIO CHEMICAL CO.,

A full size bottle of CELERINA will be sent FREE to any Physician who wishes to test it if he will pay the express charges.

ST. LOUIS, MO.

MELLIN'S FOOD

For Infants and Invalids.

A Soluble Dry Extract of Barley Malt and Wheat, prepared after the formula of the eminent chemist, Baron Justus von Liebig, for the

MODIFICATION OF FRESH COW'S MILK.

MELLIN'S FOOD is entirely free from Starch; the Carbohydrates contained therein are Dextrins and Maltose.

"The sugar formed by the action of the Ptyalin of the Saliva and the Amylopsin of the Pancreas upon starch is MALTOSE. In the digestive tract MALTOSE is absorbed UNCHANGED." *Textbook of Human Physiology, Landois and Sterling.*

"MALTOSE constitutes the end product of the action of diastase, and amylolytic ferments generally, on starch and its congeners."
Physiology of the Carbohydrates, F. W. Pavy, M.D., LL.D., F.R.S.

MELLIN'S FOOD, prepared with FRESH COW'S MILK according to the directions, is a true LIEBIG'S FOOD, and the BEST SUBSTITUTE for Mother's Milk yet produced.

THE DOLIBER-GOODALE CO., BOSTON, MASS.

The Treatment of Influenza or La Grippe.

—:—

It is quite refreshing these days to read of a clearly defined treatment for the grip. But in an article in the *Lancet-Clinic*, December 28th, 1895, Dr. James Hervey Bell, 251 East 32d Street, New York City, says he is convinced that too much medication is both unnecessary and injurious. He has few remedies; prescribes them with confidence; and "trusts the rest to nature."

When called to a case of influenza, the patient is usually seen when the fever is present, as the chill, which occasionally ushers in the disease, has generally passed away. Dr. Bell says he then orders that the bowels be opened freely by some saline draught, as hunyadi water or effervescing citrate of magnesia.

For the high fever, severe headache, pain, and general soreness, the following is ordered:

℞ Antikamnia Tablets (5 gr. each), No. xxx.
Sig. One tablet every two hours.

If the pain is extremely severe, the dose is doubled until relief is obtained. Often this single dose of ten grains of antikamnia is followed with almost complete relief from the suffering. Antikamnia is preferred to the hypodermic use of morphia because it leaves no bad after-effects; and also because it has such marked power to control pain and reduce fever. The author says that unless the attack is a very severe one, the above treatment is sufficient.

After the fever has subsided, the pain, muscular soreness and nervousness generally continue for some time. To relieve these and to meet the indication for a tonic, the following is prescribed:

℞ Antikamnia & Quinine Tablets, No. xxx.
Sig. One tablet three times a day.

This tablet contains two and one-half grains of each of the drugs, and answers every purpose until health is restored.

Occasionally the muscular soreness is the most prominent symptom. In such cases the following combination is preferred to antikamnia alone:

℞ Antikamnia & Salol Tablets, No. xxx.
Sig. One tablet every two hours.

This tablet contains two and one-half grains of each drug.

Then again it occurs that the most prominent symptom is an irritative cough. A useful prescription for this is one-fourth of a grain sulphate codeine and four and three-fourths grains antikamnia. Thus:

℞ Antikamnia & Codeine Tablets, No. xxx.
Sig. One tablet every four hours.

Dr. Bell also says that in antikamnia alone we have a remedy sufficient for the treatment of nearly every case, but occasionally one of its combinations meets special conditions. He always instructs patients to crush tablets before taking.

Although Pepsin in its various forms will, beyond all question, digest proteids, and is therefore to be relied upon in its particular sphere,

Pepsin is of no Value

IN THE DIGESTION OF STARCHY FOODS.

TAKA-DIASTASE

The Diastatic Ferment Par-Excellence
for the Relief of . . . . . .

Amylaceous Dyspepsia

(Amylolytic Power, 1 to 1500)

Is capable, under conditions specified by Junck's malt test, of converting fully 1500 times its weight of dry starch into sugar, in three hours. Or, under the same conditions, Taka-Diastase will in ten minutes (and this rapid test should invariably be employed) convert 100 times its weight of dry starch into sugar.

SUPERIOR TO MALT EXTRACT

1. **TAKA-DIASTASE** will convert 100 times its weight of dry starch. The best malt extract will not convert more than five times its weight under same conditions.

2. **TAKA-DIASTASE** is absolutely permanent. All malt extracts deteriorate with age.

3. **TAKA-DIASTASE** is in powdered form, dose from 1 to 5 grains. Malt extracts contain a preponderance of foreign inert matters, necessitating large doses.

4. **TAKA-DIASTASE** is free from sugar. Malt extracts are heavily loaded with sugar and apt to exaggerate already present pathological conditions.

5. **TAKA-DIASTASE** is perfectly soluble, and is compatible with other medicaments in neutral or slightly alkaline media. Malt extracts, owing to their viscosity, are difficult to handle and to incorporate with other ingredients in prescriptions.

6. **TAKA-DIASTASE** is economical, owing to its small dosage. Necessarily large dosage renders malt extracts expensive in comparison.

Correspondence upon this subject respectfully solicited

PARKE, DAVIS & CO. Detroit, New York, Kansas City, U. S. A.
London, Eng., and Walkerville, Ont.

Physician's Visiting List

(LINDSAY & BLAKISTON'S)

SPECIAL IMPROVED EDITION FOR 1896

Regular Edition, bound in Strong Leather Covers, with Pocket and Pencil

				NET
For 25 Patients weekly, with Special Memorandum Page	. . . . .			$1 00
" 50 " " " " " "	. . . . .			1 25
" 50 " " " " " "	2 vols.	Jan. to June / July to Dec.		2 00
" 75 " " " " " "	2 vols.	Jan. to June / July to Dec.		2 00
" 100 " " " " " "	2 vols.	Jan. to June / July to Dec.		2 25

The 75 Patients and 100 Patients Books come in two volumes only.

Address **MEDICAL AND SURGICAL REPORTER**

P. O. BOX 843

Enclose Cash with Order. **Philadelphia, Pa.**

A CORN FED HOG

is always the fattest. Physiology teaches that this fat is derived from the starch of the grain.

THIN ANAEMIC PATIENTS

need starch, and the best way to insure the assimilation of such food is to give it in an artificially digested form. This you can easily do, for a

DIGESTED AND DIGESTING FOOD

is at your disposal. The basis of Paskola is pre-digested starch, combined with which are a small proportion of hydro-chloric acid and proteid, or meat digesting ferments. It is, therefore, a digested food and a digestor of foods, and its success in the

TREATMENT OF GASTRIC INDIGESTION

anaemia and all diseases characterized by a loss of flesh fully substantiates the correctness of the foregoing observations. A large sample of Paskola will be sent, express prepaid, to any physician upon application. Address Pre-Digested Food Company, 30 Reade Street, New York.

THE STANDARD HYPNOTIC,

BROMIDIA.

Dose—One-half to one fld. drachm in water or syrup.

THE STANDARD ANODYNE,

PAPINE.

Dose—One fld. drachm, represents ⅛ gr. morphia in anodyne principle, minus its constipating effect.

THE STANDARD ALTERATIVE

IODIA.

Dose—One or two fld. drachms as indicated.

Clinical reports from eminent physicians throughout the World furnished on application.

BATTLE & CO.

CHEMISTS' CORPORATION,

ST. LOUIS, MO., U. S. A.

STRICTLY PROFESSIONAL.

HYDROLEINE

(HYDRATED OIL)

Is a purely scientific preparation of Cod Liver Oil for the treatment of Incipient Consumption, Scrofula, Rickets, Bronchitis, Whooping Cough, and all wasting diseases.

Formula—Each Dose Contains: *Pure Norwegian Cod Liver Oil, 80 m. (drops), Distilled Water, 35 m. (drops), Soluble Pancreatin, 5 grains, Soda, ⅛ grain, Salicylic Acid, ¼ grain.*

DOSE.—Two teaspoonfuls alone or mixed with twice quantity of water, to be taken after each meal.

HYDROLEINE is a pancreatized Cod Liver Oil preparation of pure Norwegian Cod Liver Oil (from Lofoten), that is prepared as the direct result of a long series of physiological experiments, conducted by H. C. Bartlett, Ph. D., F. C. S., and G. Overend Drewry, M. D., M. C. R. S., and encouraged with many practical suggestions by Bence Jones and Baron Liebig.

HYDROLEINE is based on sound scientific principles; it is easily digested and assimilated, without producing eructations. Appetite is increased, and that, so far from possessing the unpleasant taste of Cod Liver Oil and its emulsions, HYDROLEINE is palatable as milk, and pleasant. The formula is well known and the preparation has received the endorsement of physicians throughout the United States. It is sought to introduce HYDROLEINE exclusively on its merits, and for that reason the profession is appealed to only through the columns of medical journals.

SOLD BY DRUGGISTS GENERALLY.

The Charles N. Crittenton Co. Sole agents for the United States, **New York.**

Aseptic Furniture

FOR

Operating Room, Physician's Office, etc.

We have devoted much attention and study to the manufacture of first-class

ASEPTIC OPERATING TABLES,
INSTRUMENT SAFES,
WARD CARRIAGES,
WASH STANDS,
PERCOLATOR STANDS
ETC., ETC., ETC.

Many Hospitals supplied. Large stock constantly on hand. Estimates cheerfully furnished.

CHAS. LENTZ & SONS,

18 and 20 N. Eleventh Street, Philadelphia.

MANUFACTURERS OF

Surgical Instruments, Hospital Supplies,
Orthopædic Apparatus,
Bacteriological and Osteological Preparations
High Grade Microscopes a Specialty.

Send for a Copy of our fourth edition Catalogue of 800 Pages, Gratis.

Vol. LXXIII., No. 26.
Whole No. 2025.

DECEMBER 28, 1895

$3.00 per Annum
10 Cents a Copy

A WEEKLY JOURNAL.

Established 1853, by S. W. Butler, M. D.

THE MEDICAL AND SURGICAL REPORTER

GENERAL LIBRARY,
UNIV. OF MICH.
4 JAN 1896

ORIGINAL ARTICLES.

E. B. Borland, M.D.

Prevention of Tuberculosis.....789

J. A. Lippincott, M. D.

Advancement of the Internal Rectus by the Method Suggested by Dr. Melville Black.....793

R. W. Stewart, M.D.

Sarcoma of the Lower End of the Femur—Amputation at the Hip-Joint.....795

EDITORIAL.

Publisher's Notice.....797

SOCIETY REPORTS.

The Allegheny County Medical Society.....799

ABSTRACTS.

Cholera in India.....806

PERISCOPE.

MEDICINE—Fate of a Famous Health Resort, 810—The Convict Evil, 810—Disinfection of Vaults and Cesspools, 810.

HYDROZONE

IS THE STRONGEST ANTISEPTIC KNOWN.

One ounce of this new Remedy is, for its Bactericide Power, equivalent to two ounces of Charles Marchand's Peroxide of Hydrogen (medicinal), which obtained the Highest Award at the World's Fair of Chicago, 1893, for its Stability, Strength, Purity and Excellency.

CURES DISEASES CAUSED BY GERMS:

DIPHTHERIA, SORE THROAT, CATARRH, HAY FEVER, LA GRIPPE,—OPEN SORES: ABSCESSES, CARBUNCLES, ULCERS,—INFECTIOUS DISEASES OF THE GENITO-URINARY ORGANS,—INFLAMMATORY AND CONTAGIOUS DISEASES OF THE ALIMENTARY TRACT: TYPHOID FEVER, TYPHUS, CHOLERA, YELLOW FEVER,—WOMEN'S WEAKNESSES: WHITES, LEUCORRHŒA,—SKIN DISEASES: ECZEMA, ACNE, Etc.

SEND FOR FREE BOOK OF 152 PAGES GIVING FULL INFORMATION.
Physicians Remitting Twenty-Five Cents Postal Order will Receive Free Sample by Mail.

AVOID IMITATIONS.

HYDROZONE is put up only in small, medium and large size bottles, bearing a red label, white letters, gold and blue border.

GLYCOZONE
CURES
DISEASES of the STOMACH.

Prepared only by Charles Marchand

Mention this publication.

Chemist and Graduate of the "Ecole Centrale des Arts et Manufactures de Paris" (France).

SOLD BY LEADING DRUGGISTS

28 Prince St., New York.

PHYTOLINE.

A POWERFUL ANTI-FAT, ABSOLUTELY HARMLESS.

Prepared from the active principle of the berries of Phytolacca Decandra.

Indicated in Obesity, Fatty Degeneration of the Heart, Fatty Tumors, Rheumatism and allied complaints.

Prescribed in ten-drop doses, half hour before and one hour after the three daily meals.

Only advertised to the Medical Profession.

PINEOLINE.

FOR SKIN DISEASES.

A delightful and efficacious Ointment prepared from the ethereal extract of the Needle of the Pine (Pinus Pumilio) growing in the Black Forest of Germany.

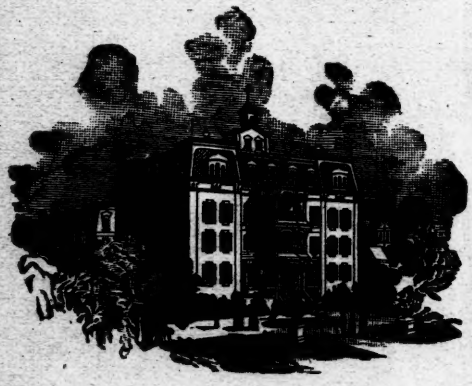
Valuable in the treatment of all forms of diseases of the Skin; Eczema, Lichens, Pruritus, Scabies, Acne, etc.

Pineoline is applied two or three times daily on linen or in any other desirable way.

A small sample will be sent on application.

Dispensed by Druggists. For Literature, address

WALKER PHARMACAL CO., - - ST. LOUIS, MO.



BURN BRAE

A Private Hospital

FOR

MENTAL AND NERVOUS DISEASES.

Founded by the late Robert A. Given, M. D. in 1859

Extensive and beautiful grounds. Perfect privacy. Located a few miles west of Philadelpiha.

REFERENCES

Doctors H. C. Wood, Pepper, Stille, Penrose, DaCosta, Mills, Tyson, Turnbull, Osler, Wharton, Sinkler

Resident Physicians: J. WILLOUGHBY PHILLIPS, M. D., S. A. MERCER GIVEN, M. D.

For further information, address BURN BRAE, Clifton Heights, Del. Co., Pa.

The Requisites of A Perfect Pill

ONE of the first objects of the skillful manufacturer is so to prepare the pill as to secure its prompt and complete solution in the stomach. Without solubility no therapeutic effect can be obtained, but gastric disturbances, together with toxic effects from accumulation, are liable to occur. To insure uniformly good results the excipient must be carefully chosen; it should be compatible to the other ingredients of the pill, unalterable, and should tend to preserve the activity of the medicaments. A certain degree of firmness is necessary, but in a properly prepared pill this is not incompatible with ready and complete solubility in the stomach. The coating of the pill is a very important matter. The coating of "Schieffelin's" pills is thin, transparent, smooth, readily soluble and impervious to atmospheric influences. The pill mass shows its color through the coating, which, while it affords a certain amount of protection against accidents, also enhances the beauty of the pill. But the "Schieffelin" pill has a higher claim for recognition than any thus far stated; only the purest materials, in the exact quantities demanded by the formula, are ever employed. No component is omitted or substituted, either for the sake of economy or on account of difficulty in manipulation. The high reputation enjoyed by the "Schieffelin" pills is due to the fact that they possess all the characteristics of a perfect preparation of this kind, namely, PURITY of medicaments and excipients, PRECISION as to weight and division, UNIFORMITY as to activity and identity, SOLUBILITY of mass and coating, PALATABILITY and ELEGANCE of appearance. In prescribing be particular to specify "Schieffelin's."

"Hemicranine."

(Powder Form).

Phenacetine-Bayer	5 parts
Caffeine	1 part
Citric Acid	1 part

Put up in ounce tins.

For neuralgias, hemicrania or migraine, and headaches of all kinds, especially cephalalgias of nervous origin, the combination of Phenacetine, Caffeine and Citric Acid has frequently been suggested, and as there seems to be a growing tendency to prescribe this combination, we offer it in the form of *Powder, Pills* and *Tablets.*

Pil. Hemicranine, 5 Grs.

Phenacetine-Bayer	5 parts
Caffeine	1 part
Citric Acid	1 part

Compressed Tablets of Hemicranine, the same strength as the Soluble Pills.

Schieffelin & Co New York

Solution Boro-Glyceride—50 per cent.

Equal parts by weight of Solid Boro-Glyceride and Pure Glycerine

BORO-GLYCERIDE (GLYCERYL BORATE) $C_3 H_5 B O_3$

CHEMICAL REACTION

Glycerine + Boric Acid + 302° F. = Boro-Glyceride + Water (Steam)

$$\underbrace{C\ H_5 (H\ O_3)}_{92} + \underbrace{H_3\ B\ O_3}_{62} = \underbrace{C_3\ H_5\ B\ O_3}_{100} + \underbrace{3\ (H_2\ O)}_{54}$$

This article, when *properly* prepared, is a definite chemical compound, and possesses medicinal values not held by either of its component parts or by any *mixture* of the same. Nearly all preparations now on the market are simply *solutions* of Boric Acid in Glycerine, from which no estimation of the value of the true preparation can be obtained.

Boro-Glyceride proper is strongly antiseptic, astringent and hygroscopic. It is non-irritating, non-poisonous, without odor or stain. Useful in any case where there is tendency to decomposition of discharges, or where an antiseptic or astringent action is desired, as in inflammation, œdema or hypertrophy of mucous membranes, recent wounds, indolent ulcers, gangrenous sores, etc.

Five per cent. to twenty-five per cent. solutions are commonly used. The fifty per cent. solution is the most convenient form in which to prescribe it.

Merrell's Boro-Glyceride is sold by all wholesale druggists.

CAUTION.—Mechanical mixtures of Commercial Borax or Boracic Acid and Glycerine are often substituted for true Boro-Glyceride; hence the necessity of specifying Wm. S. M. C. Co. in ordering or prescribing.

Hypnotic— Anti-Spasmodic —Anti-Neuralgic

CORDIAL PAS-CARNATA

MERRELL

A valuable adjunct to the treatment of nervous affections attended with the congestion of the cord and ganglionic centres. As a soporific without narcotic action and as an anti-spasmodic and anti-neuralgic, it is without an equal. Its action is between Morphine and Chloral Hydrate, but it does not depress the system nor derange the stomach. It is devoid of danger, non-poisonous and may be given in any case where sleep is needed. It is the remedy—par excellence—in infantile convulsions, in diarrhœa of children and in nervous affections of the aged and infirm. In nervous or sick headache, neuralgia of the fifth pair of nerves, in sleeplessness of typhoid and other fevers, as well as from overwork so common among professional and business men, it will produce a quiet and dreamless sleep and at the same time prove a permanent tonic to the nervous system.

Merrell Co.'s "Green Drug" Fluid Extracts, Boro-Glyceride, Salts of Hydrastis, Fluid Hydrastis, and all other specialties may be obtained of wholesale druggists throughout the United States, at the Home Office at Cincinnati, or New York Office, 96 Maiden Lane, New York City.

PRICES CURRENT AND PRINTED MATTER CHEERFULLY SUPPLIED

THE WM. S. MERRELL CHEMICAL CO.

CINCINNATI **NEW YORK**